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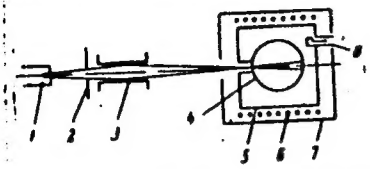
L 10396-66

ACC NR: AP5026900



system uses ordinary N5SM pumps in the first sections and an ion-sorption titanium pump in the last section to achieve a vacuum of 10^{-7} torr. Other parts of QG are: 4 - quartz teflon-lined bulb; 5 - resonator; 6 - solenoid for building an axial magnetic field; 7 - magnetic shield ; 8 - coupling loop. A 0.01—0.02-sec pumping pulse, at a frequency corresponding to λ = 21 cm transition, produced a post-radiation for 0.2—0.5 sec. The total estimated and measured relaxation constant was about 2 per sec, which corresponds to a lifetime of 0.5 sec. Data on frequency stability and shift is also given. "The authors wish to thank A. M. Prokhorov and A. N. Orayevskiy for discussing the results and valuable advice; and L. P. Yelkina, G. A. Yelkin, A. N. Ponomarev, A. A. Ul'yanov, L. M. Zak, N. A. Begun, and O. S. Lysogorov for their assistance in the project." Orig. art. has: 5 figures and 6 formulas.

SUB CODE: 20 / SUBM DATE: 10Jul64 / ORIG REF: 000 / OTH REF: 004

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Card 2/2

APPROVED FOR RELEASE: 04/03/2001 CIA-RDP86-00513R001858210013-2"

"APPROVED FOR RELEASE: 04/03/2001 CIA-RDP86-00513R001858210013-2

L 23389-66 EEC(k)-2/EWA(h)/EWP(k)/EWT(l)/FBD/T IJP(c) WG
ACC NR: AT6009313 SOURCE CODE: UR/2504/65/031/000/0096/0112

AUTHORS: Orayevskiy, A. N.; Uspenskiy, A. V. 45 B41

ORG: Physics Institute im. P. N. Lebedev, Academy of Sciences, SSSR (Fizicheskiy institut Academii nauk SSSR)

TITLE: Power pulsation regime of laser radiation 25,44

SOURCE: AN SSSR. Fizicheskiy institut. Trudy, v. 31, 1965. Kvantovaya radiofizika (Quantum radio physics), 96-112

TOPIC TAGS: laser theory, laser pulsation, relaxation process, laser radiation spectrum, laser r and d

ABSTRACT: The authors point out that at present there are many hypotheses concerning the theory of laser pulsation, although none give a satisfactory explanation of all the experimental facts. They review briefly presently known facts concerning the random pulsations and quasicontinuous pulsation mode, as well as the various theoretical hypotheses advanced on pulsation theory. They then analyze the character of the nonstationary processes in a two-level system within 2

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ACC NR: AT6009313

the framework of a single oscillation mode, and the conditions under which they arise. They use a model of a substance with two relaxation times. The equations of the two-level laser are derived rigorously and also in the form of approximate velocity equations, and the applicability of the latter as well as ways of increasing their accuracy are discussed. Modes that can be reconciled with a system of equations in which nondiagonal elements of the density matrix are included are analyzed. The transient in a two-level generator, as deduced from the analyzed equations, are briefly described. The authors solved the system of equations they derived with the aid of a computer for the case two oscillation modes and obtained damped pulsation regimes. They arrive at the following conclusions: 1) the sum of the amplitudes of the two modes execute regular damped oscillations, and the amplitude of each of them executes irregular oscillations; 2) the amplitudes in two different modes pulsate in phase opposition. Some disparity between their results and the results of others is pointed out. Orig. art. has: 3 figures and 42 formulas.

SUB CODE: 20/ ORIG REF: 024/ OTH REF: 043 SUBM DATE: none/

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"APPROVED FOR RELEASE: 04/03/2001 CIA-RDP86-00513R001858210013-2

L 23392-66 EWA(h)/EEC(k)-2/EWT(l)/EWT(m)/EWF(k)/FBD/T/EWP(t) IJP(c) WG/JD
ACC NR: AT6009315 SOURCE CODE: UR/2504/65/031/000/0139/0177

AUTHORS: Basov, N. G.; Strakhovskiy, G. M.; Nikitin, A. I.; Nikitina, T. F.; Tatarenkov, V. M.; Uspenskiy, A. V.

ORG: Physics Institute im. P. N. Lebedev, Academy of Sciences, SSSR (Fizicheskiy institut Akademii nauk SSSR)

TITLE: Problems of construction and investigation of the operation of a hydrogen-atom-beam maser

SOURCE: AN SSSR. Fizicheskiy institut. Trudy, v. 31, 1965. Kvantovaya radiofizika (Quantum radio physics), 139-177

TOPIC TAGS: maser theory, gaseous state maser, hydrogen, maser, quantum generator, excited state, stimulated emission

ABSTRACT: The authors review the hitherto published work on the theory and construction of hydrogen-beam masers and discuss the construction, choice of optimal parameters, and preliminary operating results of a maser using the transition ($F = 1$, $m_F = 0$) -- ($F = 0$,

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$m_F = 0$) at 1420.405 Mcs. Two installations of different construction are described. The operation of the maser in the underexcited mode is investigated. A procedure for determining the lifetimes of the excited atoms in the storage bulb are described. The apparatus was operated with an axial resonator magnetic field of 100 -- 300 mOe. The dependence of the amplitude and frequency of generation on the various parameters was investigated and it was found that the greatest contribution to the maser instability is due to the instability of the supplementary magnetic field and the detuning of the resonator as a result of thermal expansion. Methods of overcoming these difficulties are discussed. The section headings are: Introduction. I. Construction and adjustment of hydrogen-beam maser. 1. Operating principle of hydrogen-beam maser. 2. Vacuum system. 3. Atomic-beam sources. 4. State sorting and atomic-beam focusing. 5. Detection of hydrogen-atom beam. Methods of adjusting the apparatus. 6. Bulb for accumulation of atomic hydrogen. 7. Cavity resonator. 8. Radiation receiver for 1420 Mcs frequency. II. Investigation of operation of hydrogen-beam maser (preliminary results). 1. Investigation of stimulated emission of atomic hydrogen at 1420.4 Mcs.

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2. Characteristics of hydrogen-beam maser. Conclusions. The authors thank A. M. Prokhorov and A. N. Oraevskiy for a discussion of the results and valuable advice, and L. P. Yelkina, G. A. Yelkin, A. N. Ponomarev, A. A. Ul'yanov, L. M. Zak, N. A. Begun, and O. S. Lysogorov for help with the work. Orig. art. has: 28 figures and 69 formulas.

SUB CODE: 20/ ORIG REF: 021/ OTH REF: 034 / SUBM DATE: none

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"APPROVED FOR RELEASE: 04/03/2001 CIA-RDP86-00513R001858210013-2

L 32209-66 FBD/EWT(l)/EEC(k)-2/T/EWP(k) IJP(c) WG

ACC NR: AP6020791 SOURCE CODE: UR/0386/66/003/012/0468/0471

AUTHOR: Basov, N. G.; Orayevskiy, A. N.; Strakhovskiy, G. M.; Uspenskiy, A. V.

ORG: Physics Institute im. P. N. Lebedev, Academy of Sciences SSSR (Fizicheskiy Institut Akademii nauk SSSR)

TITLE: Two-cavity laser as high-resolution spectroscope

SOURCE: Zhurnal eksperimental'noy i teoreticheskoy fiziki. Pis'ma v redaktsiyu. Prilozheniye, v. 3, no. 12, 1966, 468-471

TOPIC TAGS: laser application, laser radiation spectrum, molecular spectroscopy, receiver resolution, hyperfine structure

ABSTRACT: The authors show that in a laser it is possible to resolve spectral components within the limits of a homogeneously broadened line, so that a spectroscope based on the use of such a laser can have a resolution limit determined by the width connected with the monochromaticity and stability of the radiation source. The spectroscope consists of a previously-described laser with two cavities in tandem (Pis'ma ZhETF v. 2, 77, 1965). Modulation of the distance between the two cavities normally modulates the signal in the second cavity, but if the signal frequency coincides exactly with the peak of the spectral line, then the

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distance modulation does not cause phase modulation. Since the position of the line peak changes with the magnitude of the signal in the first cavity, it is possible, by measuring the generation frequency at which the phase of the second cavity does not depend on the modulation of the distance between cavities, to obtain at different signal values as many independent equations as there are hyperfine structure components in the line. Simultaneous solution of these equations determines the positions of the hyperfine components. A sample calculation is given for a line with two components, and it is shown that for cavities 10 cm long spaced 10 cm apart, a mean beam velocity 6 x 10 cm/sec, a modulation frequency 10 cps, and a detection time of 1 sec it is possible to resolve spectral components separated by several cps. Orig. art. has: 2 formulas.

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"APPROVED FOR RELEASE: 04/03/2001 CIA-RDP86-00513R001858210013-2

L 18721-66 FBD/EWT(1)/EEC(k)-2/T/EWP(k)/EWA(h) IJP(c) WG

ACC NR: AP6006839 SOURCE CODE: UR/0181/66/008/002/0511/0514

AUTHOR: Krokhin, O. N.; Uspenskiy, A. V.

ORG: Physics Institute im. P. N. Lebedev AN SSSR, Moscow (Fizicheskiy institut AN SSSR)

TITLE: Asymmetry in the excitation of oscillation modes in semiconductor lasers

SOURCE: Fizika tverdogo tela, v. 8, no. 2, 1966, 511-514

TOPIC TAGS: laser theory, semiconductor laser, laser

ABSTRACT: The authors study the excitation of axial modes in semiconductor lasers. It is assumed that both the amplification factor and its spectral form are functions of the degree of inversion in the semiconductor. The case of direct interband transitions in a uniformly excited semiconductor laser is studied. The analysis is based on rate equations for the chemical potentials of the carriers and the number of photons. It is shown that the relationship between the amplification factor and the degree of inversion (the shift in the maximum and the change in form) results in asymmetric excitation of axial modes. This excitation is weakly asymmetric when

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emission begins far from the edge of the band, while excitation is totally asymmetric when the first mode is excited so close to the edge of the band that the frequency of the next longer mode is located beneath the edge and excitation cannot occur. "In conclusion the authors thank N. G. Basov and P. G. Yeliseyev for discussing the results and for valuable comments." Orig. art. has: 8 formulas. [14]

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"APPROVED FOR RELEASE: 04/03/2001 CIA-RDP86-00513R001858210013-2

L 4454-66 EWT(1)/EWP(m)/T LJP(c) GW

ACC NR: AP5018607 UR/0053/65/086/003/0421/0432
530.12:531.51

AUTHOR: Strakhovskiy, G. M.; Uspenskiy, A. V.

TITLE: Gravitational radiation and the prospect of its experimental discovery

SOURCE: Uspekhi fizicheskikh nauk, v. 86, no. 3, 1965, 421-432

TOPIC TAGS: gravitation field, gravitation wave, stellar evolution, cosmogony

ABSTRACT: The author shows that improvements in experimental techniques in general, and relatively recent development of statistical methods for distinguishing weak signals from noise, make the detection gravitational waves more realistic than in the past. The various sources of gravitational radiation are discussed (binary stars, asymmetrical collapse of stars, neutron stars, high-frequency gravitational radiation of extraterrestrial origin, and possible terrestrial sources such as rotating masses or explosions). The requirements that gravitational-wave detectors must satisfy are listed, and the similarity between high-precision electromagnetic-field measurements and gravitational measurements is pointed out. Particular attention is paid to a method involving the use of a pair of test masses (earth and satellite, earth and star, two planets, two bodies in the laboratory, and an extended single rigid body), which can be used for this purpose in analogy with an electric quadrupole. The possible sensitivity of such a system is analyzed and it is concluded that the method is feasible. The instrumental limitations on the sensitivity of the method are dis-

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cussed, and the upper bound of the density of gravitational radiation of extra-terrestrial origin is estimated. Orig. art. has: 1 figure, 20 formulas, and 2 tables.

ASSOCIATION: None

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NR REF SOV: 011

ENCL: 00

OTHER: 048

SUB CODE: GP, AA

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"APPROVED FOR RELEASE: 04/03/2001 CIA-RDP86-00513R001858210013-2

L 38118-66 EWG(k)-2/EWP(k)/EWT(l)/EWT(m)/EWP(t)/ETI IJP(c) WG/JD

ACC NR: AP6024470 SOURCE CODE: UR/0181/66/008/007/2087/2091

AUTHOR: Zakharov, Yu. P.; Nikitin, V. V.; Semenov, A. S.; Uspenskiy, A. V.; Shcheglov, V. A.

ORG: Physics Institute im. P. N. Lebedev, AN SSSR (Fizicheskiy institut AN SSSR)

TITLE: The theory of optically coupled p-n GaAs lasers

SOURCE: Fizika tverdogo tela, v. 8, no. 7, 1966, 2087-2091

TOPIC TAGS: semiconductor laser, gallium arsenide, laser coupling, SOLID STATE LASER, PN JUNCTION

ABSTRACT: Using a slotted p-n GaAs diode as a model of a semiconductor laser, optical laser coupling was studied theoretically and experimentally. Eight different diodes, prepared by methods described by G. J. Lasher and F. Stern (Phys. Rev., 133, A553, 1964), with $0.2 \leq \gamma \leq 0.5$ were used ($\gamma = \frac{L_2}{L_1} \leq 1$, where L_1 and L_2 lengths of the p-n junction on each side of the slot). Spectral characteristics of each diode were observed for different values of the threshold injection currents (J_1 and J_2) through the slotted parts of a junction. Experimental results indicate that the function $k = \frac{J_1^{thresh}}{J_2^{thresh}}$ increases with an increase in γ ($k = \frac{\gamma}{1-\gamma}$). This result agrees essentially with the theory. Orig. art. has: 3 figures and 10 formulas. [YK]

SUB CODE: 20/ SUBM DATE: 10Dec65/ ORIG REF: 002/ OTH REF: 004/ ATD PRESS: 5042

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"APPROVED FOR RELEASE: 04/03/2001 CIA-RDP86-00513R001858210013-2

L 21512-66 EWT(1)/EWA(h)
ACC NR: AP6007505 SOURCE CODE: UR/0109/66/011/002/0279/0286

AUTHOR: Uspenskiy, A. V.

ORG: none

TITLE: Theory of nonstationary processes in paramagnetic quantum generators (spin-system in a resonator, spin generator)

SOURCE: Radiotekhnika i elektronika, v. 11, no. 2, 1966, 279-286

TOPIC TAGS: paramagnetic oscillator, quantum generator, laser

ABSTRACT: Occurrence of unstable conditions in paramagnetic quantum generators is theoretically considered. Two feedback arrangements are analyzed: (1) Self-excitation and sustaining the oscillations depend on the energy of active particles arriving in the resonator; this maser-like arrangement is exemplified by a spin system in the resonator (H. Benoit, Ann. Physik, 1959, 4, 8, 1439); (2) Self-excitation and generation depend on an external driving source; a cross-coil spin generator is used as an example (Earl Law et al., Appl. Phys. Letters, 1964, 4, 6, 109). By combining Bloch equations with feedback equations, a system of equations describing generator operation is obtained. The system is indirectly investigated for stability with these results: (1) Unstable conditions are possible in both arrangements: in the first case, when the number of active particles in the resonator is sufficiently great; in the second case, when the gain is sufficiently high; (2) The first arrangement has only a threshold of instability while the second has instability regions. "The author wish to thank V. G. Veselago and K. V. Vladimirskiy for discussing the work and valuable comments." Orig. art. has: 1 figure and 35 formulas. [03]

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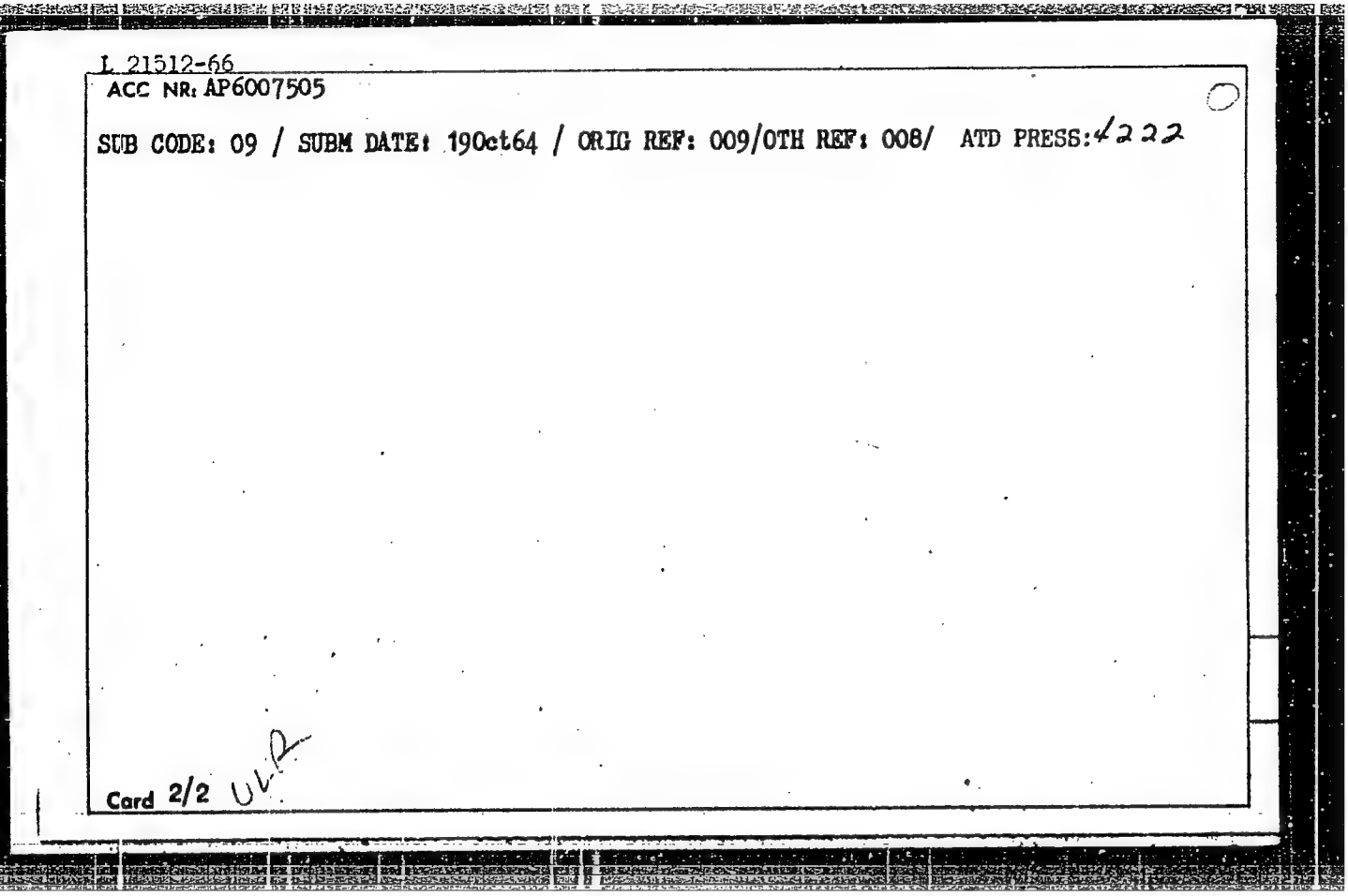

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ACC NR: AP6007505

SUB CODE: 09 / SUBM DATE: 19Oct64 / ORIG REF: 009/OTH REF: 008/ ATD PRESS: 4222

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"APPROVED FOR RELEASE: 04/03/2001 CIA-RDP86-00513R001858210013-2

L 33420-66 FBD/EWT(1)/EEC(k)-2/T/EWP(k) IJP(c) WC

ACC NR: AP6011460 SOURCE CODE: UR/0109/66/011/004/0766/0767

AUTHOR: Uspenskiy, A. V.

ORG: none

TITLE: Theory of the two-photon laser

SOURCE: Radiotekhnika i elektronika, v. 11, no. 4, 1966, 766-767

TOPIC TAGS: laser, two photon laser

ABSTRACT: Usually, the theory of pulsed two-photon laser is dealt with (R. L. Garwin, IBM J, 1964, 8, 3, 338). The author sets up equations describing continuous operation of a two-photon laser, investigates stability conditions, and determines the pulse frequency of unstable conditions. It is found that: (1) Pulsating conditions can be created if the duration of a "priming" impulse exceeds the pulsation period and the transient time of the laser resonator; (2) Apparently, a semiconductor two-photon laser could be used as a high-speed switch. Orig. art. has: 9 formulas.

SUB CODE: 20 / SUBM DATE: 16Jun65 / ORIG REF: 002 / OTH REF: 002

Card 1/1

UDC: 621.378.325.01

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"APPROVED FOR RELEASE: 04/03/2001 CIA-RDP86-00513R001858210013-2

USPENSKIY, A. YE

"Practicum for Organic Chemistry" (Praktikum Po Organicheskoy Khimii), N. D. Pryanishnikov, edited by A. Ye. Uspenskiy, Goskhimizdat, Moscow/Leningrad, 1949, 248 pages, 8 rubles 10 kopeks.

SO: Uspekhi Khimii, Vol 18, #6, 1949; Vol 19, #1, 1950 (W-10083)

APPROVED FOR RELEASE: 04/03/2001 CIA-RDP86-00513R001858210013-2"

"APPROVED FOR RELEASE: 04/03/2001 CIA-RDP86-00513R001858210013-2

PRYANISHNIKOV, Nikolay Dmitriyevich; USPENSKIY, A.Ye., professor, redaktor; SHEMASTINA, Ye.V., redaktor; SHPAK, Ye.G., tekhnicheskiy redaktor

[Practical work in organic chemistry] Praktikum po organicheskoi khimii. Izd. 4-oe. Pod red. A.E.Uspenskogo. Moskva, Gos. nauchno-tekhn. izd-vo khim. lit-ry, 1956. 244 p. (MLRA 9:7)
(Chemistry, Organic)

APPROVED FOR RELEASE: 04/03/2001 CIA-RDP86-00513R001858210013-2"

"APPROVED FOR RELEASE: 04/03/2001 CIA-RDP86-00513R001858210013-2

USPENSKIY, A.Yo.

Effect of sodium hydroxybutyrate on mono- and polysynaptic reflexes in the system of the trigeminal nerve. Farm.i toks. 29 no.3:265-270 My-Je '65. (MIRA 18:8)

1. Kafedra farmakologii (zav. - prof. D.A.Kharkevich) I Moskovskogo meditsinskogo instituta imeni I.M.Sechenova.

APPROVED FOR RELEASE: 04/03/2001 CIA-RDP86-00513R001858210013-2"

"APPROVED FOR RELEASE: 04/03/2001 CIA-RDP86-00513R001858210013-2

USPENSKIY, Aleksandr Yevgen'yevich

[Lymphogranulomatosis] Limfogranulematoz. Moskva, Medgiz, 1958. 149 p. (MIRA 13:7)
(HODGKIN'S DISEASE)

APPROVED FOR RELEASE: 04/03/2001 CIA-RDP86-00513R001858210013-2"

"APPROVED FOR RELEASE: 04/03/2001 CIA-RDP86-00513R001858210013-2

USPENSKIY, A.Ye., prof.

Lymphogranulomatosis. Med.sestra 17 no.11:12-19 N'58 (MIRA 11:11)
(HODGKIN'S DISEASE)

APPROVED FOR RELEASE: 04/03/2001 CIA-RDP86-00513R001858210013-2"

"APPROVED FOR RELEASE: 04/03/2001 CIA-RDP86-00513R001858210013-2

USPENSKIY, B.

Work report: Machine operators of the Moscow region on Pavlodar state farms. Prof.-tekh. obr. 18 no.1:20 Ja '61. (MIRA 14:2)
(Bayan-Aul District--Farm mechanization)

APPROVED FOR RELEASE: 04/03/2001 CIA-RDP86-00513R001858210013-2"

"APPROVED FOR RELEASE: 04/03/2001 CIA-RDP86-00513R001858210013-2

USPENSKIY, B.

Progressive school farm. Prof-tekh. obr. 18 no.4:7-9 Ap '61.
(MIRA 14:4)
(Latvia—Farm mechanization—Study and teaching)

APPROVED FOR RELEASE: 04/03/2001 CIA-RDP86-00513R001858210013-2"

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USPENSKIY, B.

Petroleum workers take over the shift. Prof.-tekh. obr. 18 no.9:11-12 S '61. (MIRA 14:11)
(Neftegorsk--Petroleum workers--Education and training)

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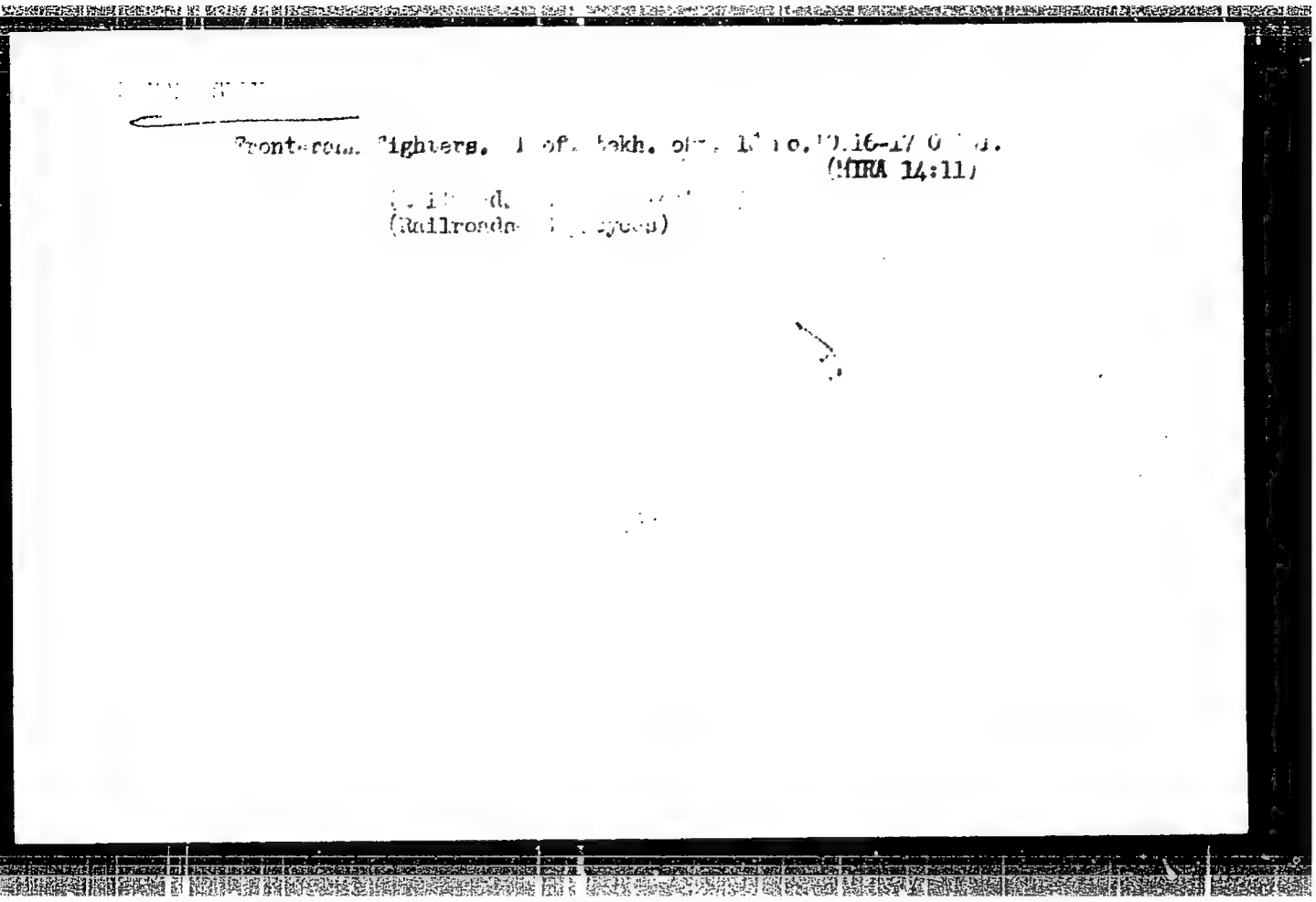

Fronteram Fighters. [illegible] of. Tekh. [illegible] no. [illegible].16-17 [illegible]
(MIRA 14:11)

[illegible]
(Railroads [illegible])

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"APPROVED FOR RELEASE: 04/03/2001 CIA-RDP86-00513R001858210013-2

USPENSKIY, B.

A.Gitalov's progressive methods are at the basis of training.
Prof.-tekh.obr. 19 no.3:5-6 Mr '62. (MIRA 15:4)
(Farm mechanization--Study and teaching)
(Gitalov, Aleksandr Vasil'evich)

APPROVED FOR RELEASE: 04/03/2001 CIA-RDP86-00513R001858210013-2"

"APPROVED FOR RELEASE: 04/03/2001 CIA-RDP86-00513R001858210013-2

USPENSKIY, B.

Future workers of "Pravda." Prof.-tekh. [illegible]r. 19 no.5:22-24 My '62. (MIRA 15:5)
(Printing, Practical—Study and teaching)

APPROVED FOR RELEASE: 04/03/2001 CIA-RDP86-00513R001858210013-2"

"APPROVED FOR RELEASE: 04/03/2001 CIA-RDP86-00513R001858210013-2

BOGARADA, N.; USPENSKIY, B.

On a large school farm. Prof.-tekh. obr. 19 no.9 16-18 S '62.
(MIRA 15:10)

(Agriculture--Study and teaching)

APPROVED FOR RELEASE: 04/03/2001 CIA-RDP86-00513R001858210013-2"

"APPROVED FOR RELEASE: 04/03/2001 CIA-RDP86-00513R001858210013-2

USPENSKIY, B.

Mechanized teams at work. Prof.-tekhn.obr. 19 no.11:7 N '62. (MIRA 16:2)
(North Kazakhstan Province—Farm mechanization—Study and teaching)

APPROVED FOR RELEASE: 04/03/2001 CIA-RDP86-00513R001858210013-2"

"APPROVED FOR RELEASE: 04/03/2001 CIA-RDP86-00513R001858210013-2

USPENSKIY, B.

Compulsory education in farm mechanization. Prof.-tekh. obr. 19 no.12:8-9 D '62. (MIRA 16:2)
(Chita Province—Farm mechanization—Study and teaching)

APPROVED FOR RELEASE: 04/03/2001 CIA-RDP86-00513R001858210013-2"

"APPROVED FOR RELEASE: 04/03/2001 CIA-RDP86-00513R001858210013-2

USPENSKIY, B.

Harvest time. Prof.-tekh. obr. 20 no.1:21-22 Ja '63. (MIRA 16:2)
(Moscow Province--Farm mechanization--Study and teaching)

APPROVED FOR RELEASE: 04/03/2001 CIA-RDP86-00513R001858210013-2"

"APPROVED FOR RELEASE: 04/03/2001 CIA-RDP86-00513R001858210013-2

USPENSKIY, B.

Careful, Mys'kov! Prof.-tekh. obr. 20 no.4:24-25 Ap '63.
(MIRA 16:5)

1. Spetsial'nyy korrespondent zhurnala "Professional'no-tekhnicheskoye obrazovaniye".

(Teachers)

APPROVED FOR RELEASE: 04/03/2001 CIA-RDP86-00513R001858210013-2"

"APPROVED FOR RELEASE: 04/03/2001 CIA-RDP86-00513R001858210013-2

USPENSKIY, B.

For the rational organization of lessons. Prof.-tekh. obr. 20 no.7:21 Jl '63. (MIRA 16:10)

APPROVED FOR RELEASE: 04/03/2001 CIA-RDP86-00513R001858210013-2"

"APPROVED FOR RELEASE: 04/03/2001 CIA-RDP86-00513R001858210013-2

USPENSKIY, B.

His trace in life. Prof.-tekh.obr. 22 no.4:22-23 Ap '65. (MIRA 18:5)

APPROVED FOR RELEASE: 04/03/2001 CIA-RDP86-00513R001858210013-2"

"APPROVED FOR RELEASE: 04/03/2001 CIA-RDP86-00513R001858210013-2

USPENSKIY, B.

School reborn from the ruins. Prof.-tekh.obr. 22 no.5:18-19 My '65. (MIRA 18:5)

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USPENSKIY, B.

They continue the work of Pasha Angelina. Prof.-tekh. obr. 22 no.7:14-16 Jl '65. (MIRA 18:8)

APPROVED FOR RELEASE: 04/03/2001 CIA-RDP86-00513R001858210013-2"

"APPROVED FOR RELEASE: 04/03/2001 CIA-RDP86-00513R001858210013-2

USPENSKIY, B.

Glorious deeds of young grain growers. Prof.-tekh. obr. 22 no.10:36 O '65. (MIRA 18:10)

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"APPROVED FOR RELEASE: 04/03/2001 CIA-RDP86-00513R001858210013-2

USPENSKIY, B.

Always on the front line. Prof.-tekh. obr. 22 no.9:19-21 S '65.
(MIRA 18:9)

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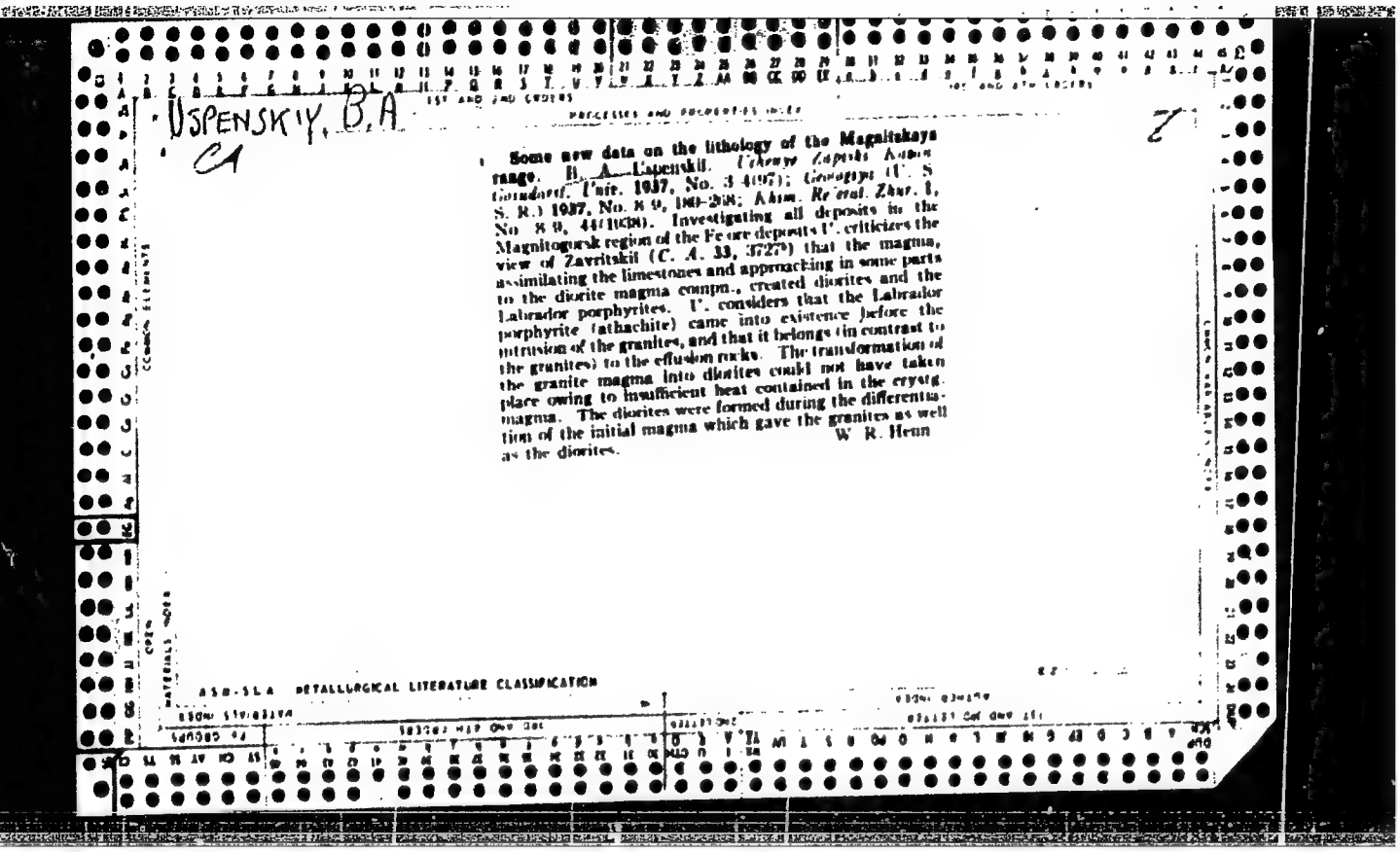

USPENSKIY, B.A.
CA

Some new data on the lithology of the Magnitnaya range. B. A. Uspenskii. *Uchenye Zapiski Kazan. Gosudarst. Univ.* 1937, No. 3 4(97); *Geologiya* (U. S. S. R.) 1937, No. 8 9, 189–208; *Khim. Referat. Zhur.* 1, No 8 9, 44(1938). Investigating all deposits in the Magnitogorsk region of the Fe ore deposits U. criticizes the view of Zavritskii (*C. A.* 33, 3727⁹) that the magma, assimilating the limestones and approaching in some parts to the diorite magma compn., created diorites and the Labrador porphyrites. U. considers that the Labrador porphyrite (athachite) came into existence before the intrusion of the granites, and that it belongs (in contrast to the granites) to the effusion rocks. The transformation of the granite magma into diorites could not have taken place owing to insufficient heat contained in the crystg. magma. The diorites were formed during the differentiation of the initial magma which gave the granites as well as the diorites.

W. R. Henn

ASB-SLA METALLURGICAL LITERATURE CLASSIFICATION

APPROVED FOR RELEASE: 04/03/2001 CIA-RDP86-00513R001858210013-2"

"APPROVED FOR RELEASE: 04/03/2001 CIA-RDP86-00513R001858210013-2

USPENSKIY, B. A.

Tatar Republic - Rocks, Igneous

Paleozoic volcanic occurence in the Kazan region. Dokl. AN SSR 85 no. 2, 1952.

9. Monthly List of Russian Accessions, Library of Congress, November 1952 Unclassified.

APPROVED FOR RELEASE: 04/03/2001 CIA-RDP86-00513R001858210013-2"

"APPROVED FOR RELEASE: 04/03/2001 CIA-RDP86-00513R001858210013-2

USPENSKIY, B.A. (Kazan')

Petrography of crystalline bedrock in the Second Baku territory. Uch.zap.Kaz.un. 115 no.10:81-82 '55. (MLRA 10:5)
(Second Baku--Rocks, Crystalline and metamorphic)

APPROVED FOR RELEASE: 04/03/2001 CIA-RDP86-00513R001858210013-2"

"APPROVED FOR RELEASE: 04/03/2001 CIA-RDP86-00513R001858210013-2

USPENSKY, V. D.

V. D. Uspensky wrote the eighth chapter of the book, TECHNIQUE OF SYNOPTICAL ANALYSIS AND FORECAST, (Tekhnika sinopticheskogo analiza i prognoza) by V. A. Bugaev. 1947

SO: A. I. D. Library of Congress (Call No. QC878.B8)

APPROVED FOR RELEASE: 04/03/2001 CIA-RDP86-00513R001858210013-2"

"APPROVED FOR RELEASE: 04/03/2001 CIA-RDP86-00513R001858210013-2

USPENSKIY, V.D.; IVANOV, S., redaktor; ZHURAVLEV, A., tekhnicheskiy redaktor.

[The master of motorless flight] Master bezmotornogo poleta. Moskva, Izd-vo Dosaaf, 1954. 29 p. [Microfilm] (MLRA 7:12)
(Gliders (Aeronautics))

APPROVED FOR RELEASE: 04/03/2001 CIA-RDP86-00513R001858210013-2"

"APPROVED FOR RELEASE: 04/03/2001 CIA-RDP86-00513R001858210013-2

"Problem of the Utilization of Observations on the Wind in Forecasting of Variations of Atmospheric Pressure"
Meteorol. i Gidrologiya, No 2, 1-24, 1954

The most important failing of existing methods of computer forecasting is the complete or partial disregard of second and higher order derivatives of pressure with respect to time and the hypothesis of quasi-geostrophic atmospheric processes. Improvement of prognostic schemes is possible if this hypothesis is rejected and if one regards as the original data not only data on pressure and temperature but also data on the wind in the entire thickness of the atmosphere. The construction of charts of current lines or charts of meridional and latitudinal components of the wind is completely realizable under the existing network. Direct use of data on the wind leads to similar prognostic formulas. The author proposes a formula for the local changes in the pressure near the ground, in which the first three terms give the contribution due to the horizontal transfer of temperature (contribution equivalent to the first approximation of Al'), the fourth term gives the contribution due to the horizontal divergence definitely averaged with respect to the altitude of the tropospheric currents, and the fifth and sixth terms give the contribution due to the presence in the atmosphere of accelerations. The problem of the practical application of the formula can be solved on the basis of a study of empirical data;

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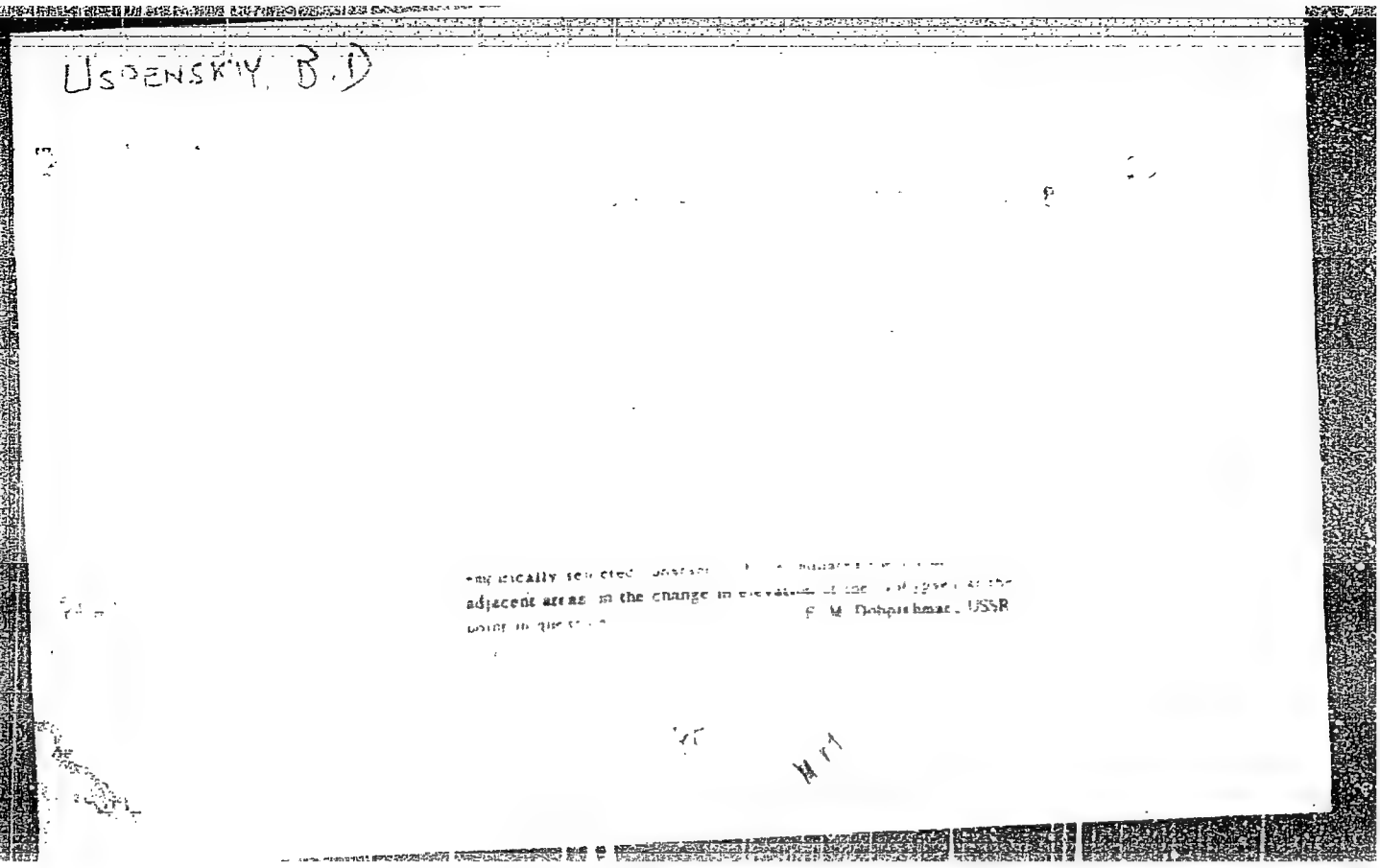

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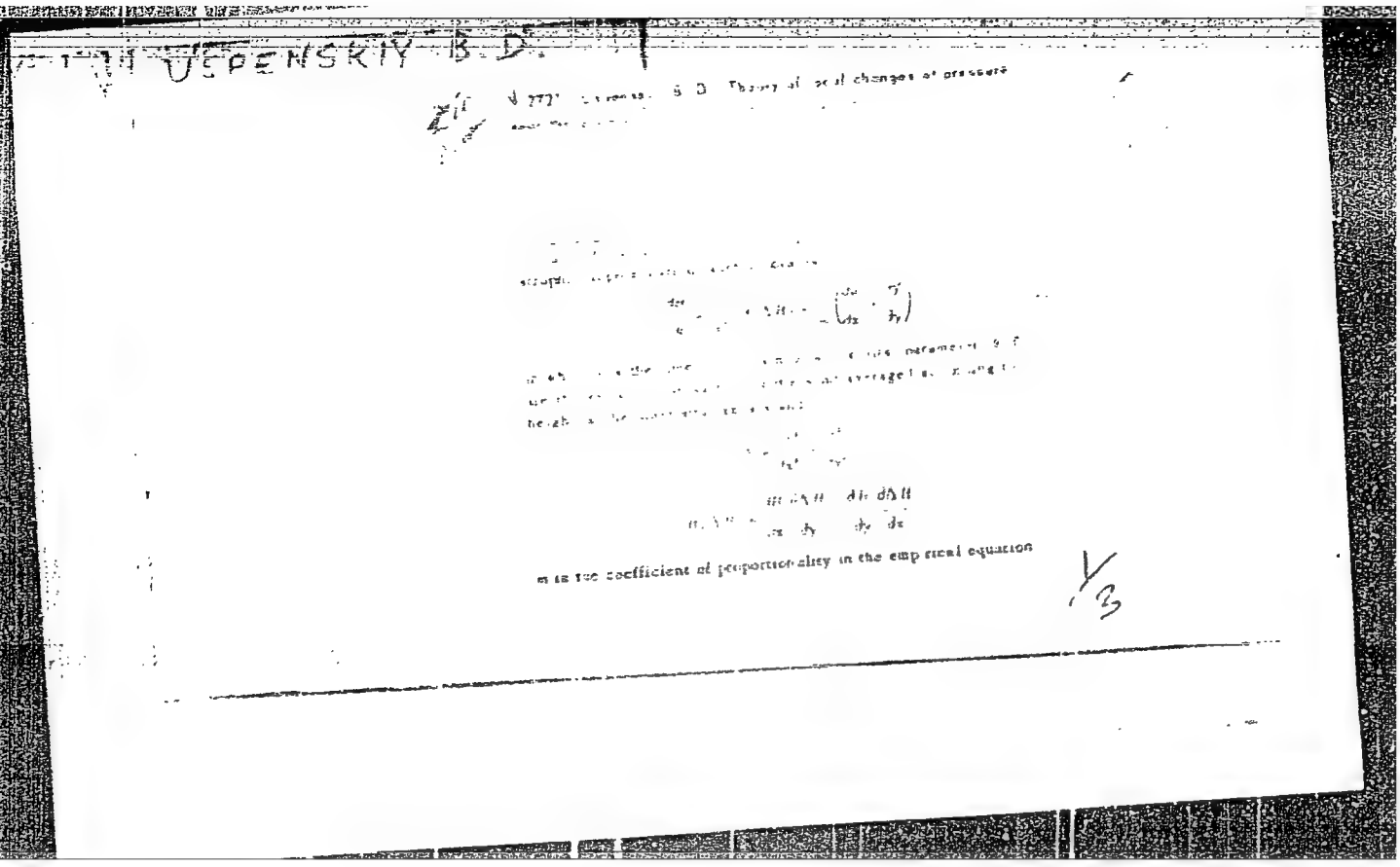

USPENSKIY

m is the coefficient of proportionality in the empirical equation

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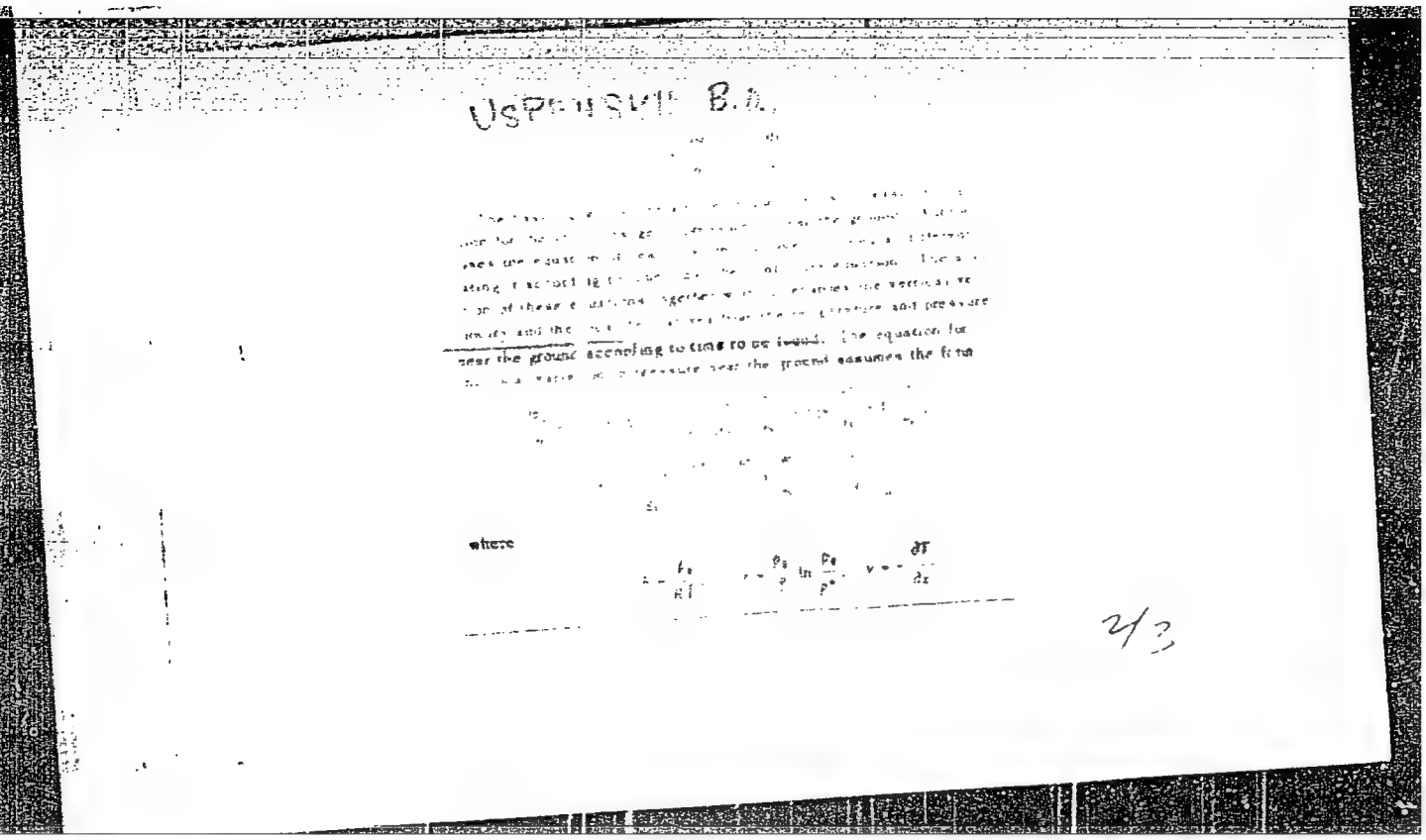

USPENSKIE B.A.

[illegible]

near the ground according to time to be found. The equation for [illegible] pressure near the ground assumes the form

[illegible]

where

$$k = \frac{k_0}{RT}, \quad r = \frac{p_0}{\rho} \ln \frac{p_0}{p^*}, \quad v = -\frac{\partial T}{\partial x}$$

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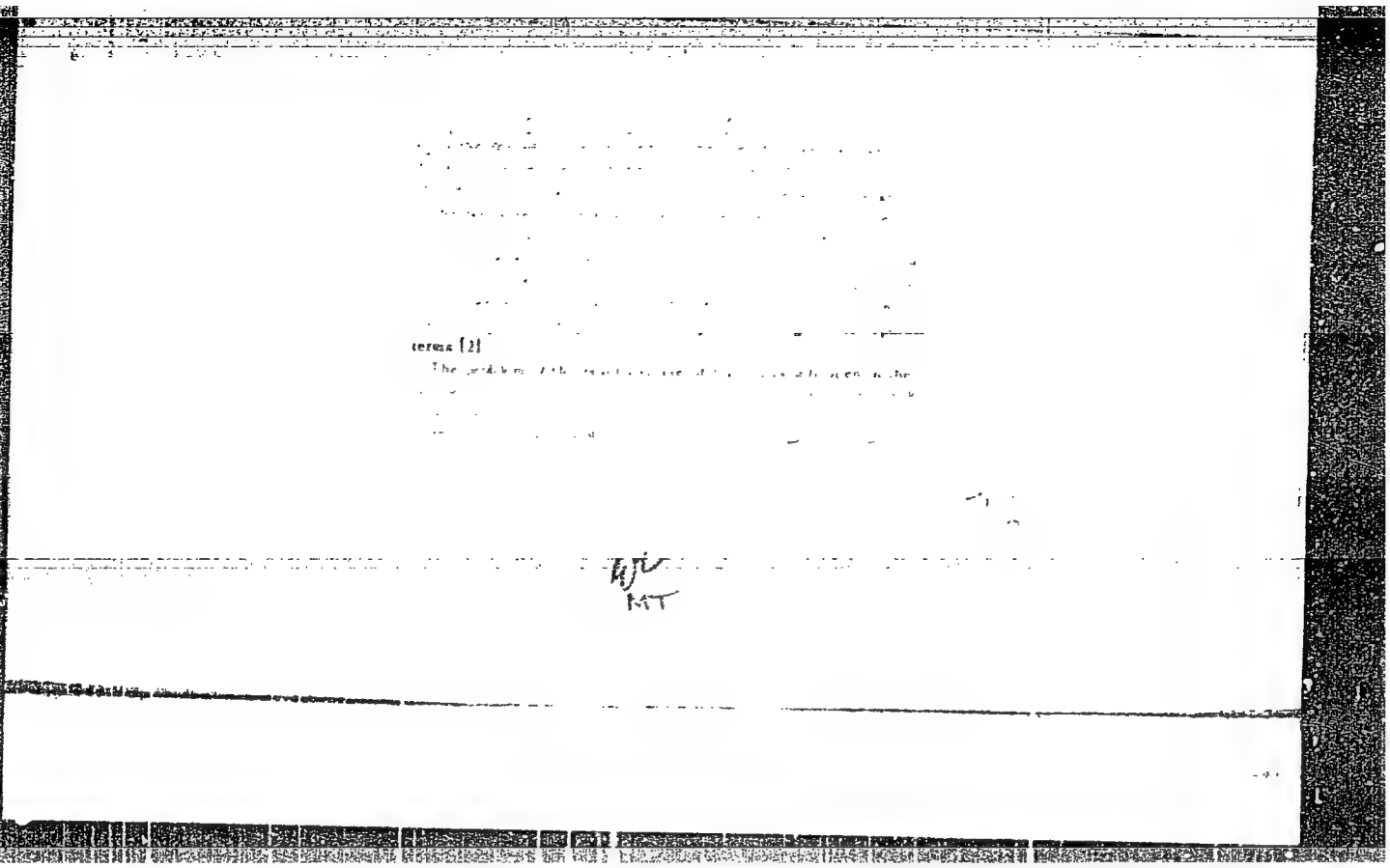

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USPENSKIY, B.D.

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PHASE I BOOK EXPLOITATION

Leningrad. Tsentral'nyy institut prognozov

Voprosy sinopticheskoy meteorologii (Problems in Synoptical Meteorology) Moscow, Gidrometeoizdat, Moskovskoye otdelniye, 1957. 129 p. (Its: Trudy, vyp. 61) 1,300 copies printed.

Ed. (title page): Uspenskiy, B.D.; Ed. (inside book): Sadovskiy, V.N.; Tech. Ed.: Zarkh, I.M.

PURPOSE: The collection of articles is intended for specialists working in the field of weather forecasting.

COVERAGE: The collection discusses the relationship between atmospheric pressure and weather forecasting.

TABLE OF CONTENTS:

Vetlov, I.P. Analysis of Conditions of the Development of Cyclones and Anticyclones Near the Earth's Surface 3

The article examines a series of problems which might possibly offer some explanation as to the evolution of cyclones and

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Problems in Synoptical Meteorology

and anticyclones; these problems are still unsolved, despite the abundance of theoretcial and empirical data. One of these problems is the effect of thermobaric field structures on the origin of the cyclone and anticyclone, and also on the process of cooling and warming air by advection. The author analyzes the results of 110 observed cyclones and 82 anticyclones and discusses: (1) The geostrophic wind velocity along the isobaric levels of 700, 500, and 300 millibars and the horizontal temperature gradients at the 500 millibar level in the area of cyclones and anticyclones over the central, cold, and warm sections; (2) the advection of vortices at 700,500,and 300 mb isobaric levels and advective changes of temperature in the 500-1000 mb layers over the central section of cyclones and anticyclones; (3) the changes in the turbulent air movement and their dependence on elevation in the near-surface layer of the cyclonic area; (4) the changes in the mean temperature at 500-1000, 300-500, and 200-300 mb levels in the process of development of cyclones and anticyclones; and finally (5) the changes in baric pressures observed during a 12-hour interval. All the points considered may facilitate forecasting.

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Problems in Synoptical Meteorology

There are 15 tables, 3 drawings, and 8 Soviet references.

Tomashevich, L.M. Cyclone Regeneration and the Effects of Vertical Currents on Thermobaric Field 56

The author analyzes the process and the effect of the penetration of air masses, mostly of cold air, into a cyclone area; such an injection (intrusion) represents a new source of energy capable of reviving a dying cyclone. The regeneration of a cyclone is linked with the deepening of the cyclone area; new fronts are created, the upward movement is intensified, the former direction of the cyclone movement is changed, and the precipitation is increased. Since a regenerated cyclone causes considerable shift in the prevailing weather conditions, these conditions can be predicted from some of the symptoms of the regeneration occurring. The author explains the nature of the regenerated cyclone and describes the principal changes which occur at 700 (absolute topography at 700 millibar level). The explanation is theoretical

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and is based on the selected coefficients of vorticity; in this connection, reference is made to V.A. Bugayev who worked out a mathematical solution of the problem of vorticity. Statistical data are derived from observations conducted between 1947 and 1951. Two pages of the author's own conclusions contain data on the distribution of velocities for primary and regenerated cyclones in various stages of their development and on the accompanying temperature behavior. The essential indications for the regeneration of a cyclone are given. There are 11 drawings, 5 tables, and 8 Soviet references.

Leonov, N.G. Cyclone Displacements Due to the Structure of the Baric Field in the Atmosphere 82

The author examines the rule of the leading jet in predicting the possible direction of a cyclone. This rule implies that cyclones move at 700-500 millibar levels with the direction of the wind above the cyclone area. However, since information on such winds is difficult to obtain, the author discusses and evaluates the possibility of using the data on the geostrophic

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Problems in Synoptical Meteorology

wind present over cyclonic areas. The author arrives at the conclusion that displacements of cyclones are affected by factors other than the winds alone. There are 29 tables, 3 figures, and no references.

Shishkova, I.A. Methods of Calculating Local Accelerations 111

The author reviews the problem of deviation of local winds from the geostrophic wind and offers an empirical rule for determining the direction of any such deviation through an analysis of local accelerations. Of particular importance in such cases is whether or not the wind in question deviates toward a low pressure or a high pressure area and at what velocity it moves. The mathematical solution, suggested by the author, results in 76-78 percent correct predicitions as to the direction of the wind. The author concludes that no connection exists between variations in the velocity of the wind and the direction it takes. An increase (or decrease) in wind intensity within 12 hours can occur with deviations toward either the high or low pressure areas. There are 2 figures and 3 Soviet references.

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"APPROVED FOR RELEASE: 04/03/2001 CIA-RDP86-00513R001858210013-2

Problems in Synoptical Meteorology

Glazova, O.P. Determination of Maximum Daily Air Temperature by Vertical Sounding of the Atmosphere 120

The author recapitulates the standard method of evaluting the radiation balance for the interval of time between sunrise and the moment of maximum daily temperature, including the determination of the latter. Reference is made to the efforts of N.I. Bel'skiy and Ye. Gol'd which were directed to this end. The American meteorologist T. Williams is also mentioned in this connection, but his technique is rejected as not applicable to conditions in the European USSR. Bel'skiy's version is accepted by the author and explained in detail. Elaborating on Bel'skiy's method, the author of the article considers the following meteorological factors essential for the determination of maximum temperature: the flow of solar radiation, the dynamic turbulence, and the horizontal displacement of the air caused by the temperature gradient. The mathematical method reduces to defining the value of what is called by the author "an elementary square," a quadrangle enclosed between isobars with a 10 mb spread and isotherms 1° apart. This area

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corresponds to the amount of heat (2.45 calories) required to raise the temperature of an air column 1° C, the column having a cross section of 1 cm^2 and a height corresponding to a pressure difference of 10 mb. The weight of the air column is 10.2 grams and its specific heat 0.24. The article examines also the role of dynamic turbulence in changing the air temperature in the near-surface layer (i.e. 300-400 meters), when there is no advection. There are 3 tables, 3 figures, and 6 references, of which 4 are Soviet and 2 English.

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Card 7/7

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"APPROVED FOR RELEASE: 04/03/2001 CIA-RDP86-00513R001858210013-2

SOV/124-58-11-12794

Translation from: Referativnyy zhurnal, Mekhanika, 1958, Nr 11, p 126 (USSR)

AUTHOR: Uspenskiy, B. D.

TITLE: On the Use of Wind Observations in the Analysis of the Dynamics and Kinematics of Atmospheric Processes (K voprosu ob ispol'zovanii nablyudeniy nad vetrom pri analize dinamiki i kinematiki atmosfernykh protsessov)

PERIODICAL: Tr. Tsentr. in-ta prognozov, 1957, Nr 60, pp 44-50

ABSTRACT: The vorticity equation, currently widely used in weather prediction, contains a term that contains the plane wind-velocity divergence. The author designates the contribution of that component term upon the pressure tendency as the "divergence contribution". The following method is proposed for the calculation of the divergence contribution. Using the equation of continuity the author represents the vertical velocity w as an integral of the plane velocity divergence. The expression for w is written for the 700-mb and 850-mb levels; here the integrals are approximated by the method of trapezoids (Simpson's rule; Transl. Ed. Note). The expressions obtained for w are substituted in the equation

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On the Use of Wind Observations in the Analysis of the Dynamics (cont.)

of the adiabatic process which is also written for the 700-mb and 850-mb levels. It is assumed that the values of the plane velocity divergence at the 1,000-mb and 850-mb levels are equal and that the temperature changes at the 850-mb level are equal to the temperature changes at the 700-mb level. As a result the divergence contribution consists of a linear combination of the temperature advection at the 700-mb and 850-mb levels. The fact that the desired quantity is found as the small difference of two large numbers is a shortcoming of this formula.

S. A. Mashkovich

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USPENSKIY, B.D.

SOV/2114

3(7) PHASE I BOOK EXPLOITATION

Tsentral'nyy institut prognozov

Voprosy sinopticheskoy i dinamicheskoy meteorologii (Problems of Synoptic and Dynamic Meteorology) Moscow, Gidrometeoizdat (Otd-niye), 1958. 110 p. (Series: Its: Trudy, vyp. 77). 1,100 copies printed.

Sponsoring Agency: USSR. Glavnoye upravleniye gidrometeorologicheskoy sluzhby.

Ed. (Title page): A.I. Burtsev; Ed. (Inside book): V.I. Tarkhunova; Tech. Ed.: T.Ye. Zemtsova.

PURPOSE: This issue of the Institute's Transactions is intended for synoptic and dynamic meteorologists.

COVERAGE: This collection of articles deals with various aspects of atmospheric circulation. Individual papers discuss convection in warm fronts, visibility during snowstorms, the relationship be-

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"APPROVED FOR RELEASE: 04/03/2001 CIA-RDP86-00513R001858210013-2

tween fronts and jet streams, questions of pressure change, and vertical motions in the atmosphere. References accompany each article.

TABLE OF CONTENTS:

Uspenskiy, B.D. Conversion of the Vortex Velocity Equation Into a Form That Would Facilitate the Analyses of Changes Occuring in the Fields of Absolute Topography 3

Pogosyan, Kh.P., and M.V. Shabel'nikova. Jet Streams and Fronts 8

Bachurina, A.A. Analysis of Horizontal Visibility Near the Earth's Surface During a Snowstorm 15

Lebedeva, N.V. Forced Convection on a Warm Front 42

Lebedeva, N.V. Thermal Convection 64

Burtsev, A.I. A Method for Computing Vertical Air Velocity by Taking Into Account the Variations of the Vertical Temperature

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"APPROVED FOR RELEASE: 04/03/2001 CIA-RDP86-00513R001858210013-2

Problems of Synoptic and Dynamic Meteorology SOV/2114

Gradient With Altitude 82

Turketti, Z.L., and V.I. Zhil'tsova. Results Obtained From Testing the Computation Method for Precipitations During the Cold Half of the Year in the Operations of the Central Institute of Forecasting 103

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"APPROVED FOR RELEASE: 04/03/2001 CIA-RDP86-00513R001858210013-2

50-58-3-3/22

AUTHOR: Uspenskiy, B.D.

TITLE: A Method for the Determination of the Local Acceleration in Changing Geopotential Heights of Isobaric Surfaces (Metod opredeleniya lokal'nogo uskoreniya v izmeneniyakh geopotentsial'nykh vysot izobaricheskikh poverkhnostey)

PERIODICAL: Meteorologiya i Gidrologiya, 1958, Nr 3, pp. 21-27 (USSR)

ABSTRACT: In refs. 3 and 4 a theory was suggested according to which the most important factor in determining the variation of the field of the absolute geopotential and of the earth-near pressure is the divergence factor. It can be determined on the strength of observations "concerning wind" or from data concerning the horizontal advection of temperature in the low stratosphere. Hitherto this theory has given satisfactory results both in diagnosis and in forecast. Moreover, it is also known that the determination of the divergent part (share), above all from data "concerning wind", frequently becomes very problematic. A new mathematical way is shown by means of which the problem mentioned in the title can be solved without any lengthy

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A Method for the Determination of Local Acceleration 50-58-3-3/22
in Changing Geopotential Heights of Isobaric Surfaces

computations. For the calculation of $\frac{\partial N}{\partial t}$, it is true, some boundary conditions are assumed, but they do not exercise any influence in principle, above all not on physical interpretation. For cyclones as well as for anticyclones the formulae are derived, and the conclusion may be drawn from tabular data that in processes of the propagation and damping of high cyclones and anticyclones a special part is played not only by their velocity but also by their acceleration. There are 1 figure, 1 table, and 5 references, 5 of which are Soviet.

1. Cyclones--Propagation 2. Cyclones--Velocity 3. Weather forecasting 4. Mathematics

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USPENSKIY, B.D.

Transforming the velocity vortex equation into a type of equation convenient for analyzing changes in the fields of absolute topography. Trudy TSIP no.77:3-7 '58. (MIRA 12:5)

(Winds)

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"APPROVED FOR RELEASE: 04/03/2001 CIA-RDP86-00513R001858210013-2

3 (7)
AUTHOR: Uspenskiy, B. D.

SOV/50-59-8-1/19

TITLE: Method of Determining the Evolution of Altitudes of Isobaric Surfaces (Metod opredeleniya evolyutsii vysot izobaricheskikh poverkhnostey)

PERIODICAL: Meteorologiya i gidrologiya, 1959, Nr 8, pp 3 - 7 (USSR)

ABSTRACT: In the previous paper (Ref 4), the author investigated the approximate determination of the evolution of baric centers by formula (1). A method of approximate forecast of the evolution of altitudes of isobaric surfaces is pointed out here; it slightly generalizes the results put forward in short in the paper (Ref 4). The method put forward in the paper (Ref 4) for forecasting the displacement of altitudes of isobaric surfaces is here maintained unchanged in spite of shortcomings, since the analysis of conditions in the evolution of AT-fields is in no direct connection with this method. The formulas (6), (11) and (12) are obtained. It is most convenient in practice to use these formulas for determining the baric centers and saddle since the calculation result can characterize the evolution of each baric system in one point. The experience in the use of these formulas shows that the divergences of wind and wind ed-

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dies contained in these formulas can be best calculated by use of a polar coordinate system according to the observation data. The wind vector is decomposed into its normal- and tangential components. In this case, all wind observations in the range of the baric center or saddle on a surface with the radius of 750 ~ 1000 km can be used. In a large number of observations, this increases the accuracy in the determination of the divergence of the wind and of the wind eddy. The conversion of the formulas for these two into the corresponding polar coordinate system was put forward in the paper (Ref 4). By use of the relations obtained there, the formulas (6) and (11) are converted to (13) and (14). The second term of formula (14) is then converted to formula (16) on the basis of formula (15). The first summand of the second term of formula (16) always yields the positive contribution to the change in intensity of the baric centers. The second summand yields, to the change in intensity of the baric centers, a contribution opposite in sign to the contribution of the first summand. In the case of sinking cyclones and weakening anticyclones, its rôle becomes very important with high baric centers. Formula (16) is distinguished

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from the formula mentioned in the paper (Ref 4) by the second summand which is convenient for practical calculations. To clarify the use of an introduction of the second term into formula (16), a number of forecasts of the evolution sign of the baric altitude centers were carried out on the level of 850 and 700 mb. The method of calculation described in the papers (Refs 3,4) was maintained. The working formulas had the form of the formulas (17), (18) and (19). The preliminary data obtained show that the forecast of the evolution sign is somewhat better realized according to formulas (12), (17), (18) and (19) than that according to the formulas of the paper (Ref 4). There are 5 Soviet references.

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USPENSKIY, B.D.

Forecasting the evolution of cyclones and anticyclones. Trudy TSIP no.106:102-114 '60. (MIRA 13:12)

(Cyclones)

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"APPROVED FOR RELEASE: 04/03/2001 CIA-RDP86-00513R001858210013-2

S/050/61/000/001/002/007
B012/B058

AUTHOR: Uspenskiy, B. D.

TITLE: Forecast of the Evolution of Ground Cyclones and Anticyclones

PERIODICAL: Meteorologiya i gidrologiya, 1961, No. 1, pp. 10-15

TEXT: The forecast of the evolution of barometric ground centers is studied in this paper. The method applied follows from the general solution of the problem of forecasting individual changes of geopotential and ground pressure (Ref. 4). Moreover, the results of the application of such a forecast are given. The calculations were made according to data from 12 synoptic situations during 1958. The quantities contained in the formulas were determined by using the previously set up fields of these quantities. The method for their setup was described by the author in the paper (Ref. 4). Compared to Ref. 2 more general formulas are given here. The following formulas are written down:

$$\frac{dp_o}{dt} = A_8\bar{D}_8 - B_8(1.5\bar{D}_o + 0.5\bar{D}_8) \qquad (5)$$

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"APPROVED FOR RELEASE: 04/03/2001 CIA-RDP86-00513R001858210013-2

$$A = \frac{\rho r_1^3 a}{4(1 + b\bar{n})}; \quad (7)$$

$$B = \frac{\bar{n}(p_0 - p)b}{4(1 + b\bar{n})}; \quad (8)$$

$$a = \frac{p_0}{RT_0}; \quad b = \frac{p_0}{T_0} \ln \frac{p_0}{p}. \quad (9)$$

$$\frac{dp_0}{dt} = A_7 \bar{D}_7 - B_7 (0.35 \bar{D}_0 + 0.5 \bar{D}_8 + 0.2 \bar{D}_7) \quad (10)$$

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"APPROVED FOR RELEASE: 04/03/2001 CIA-RDP86-00513R001858210013-2

Forecast of the Evolution of Ground Cyclones and Anticyclones

S/050/61/000/001/002/007
B012/B058

$$\frac{d^2 p_0}{dt^2} = A_8' (\overline{\Omega}_8 - \overline{\Omega}_r) - B'_8 [(1{,}5\,\overline{\Omega}_0 - \overline{\Omega}_r) + 0{,}5(\overline{\Omega}_8 - \overline{\Omega}_r)] - A_8 \overline{M}_8 + B_8 [1{,}5\,\overline{M}_8 + 0{,}5\,\overline{M}_8]; \quad (11)$$

$$\frac{d^2 p_0}{dt^2} = A_7' (\overline{\Omega}_7 - \overline{\Omega}_r) - B_7' [0{,}35(\overline{\Omega}_0 - \overline{\Omega}_r) + 0{,}5(\overline{\Omega}_8 - \overline{\Omega}_r) + 0{,}2(\overline{\Omega}_7 - \overline{\Omega}_r)] - A_7 \overline{M}_7 + B_7 [0{,}35\,\overline{M}_0 + 0{,}5\,\overline{M}_8 + 0{,}2\,\overline{M}_7], \quad (12)$$

l is the Coriolis parameter, r_1 the radius of the surface for which the mean value of horizontal divergence D_p at the isobaric surface p is found. T is the air temperature (in °K), p_0 the ground pressure. The values topped by a dash are mean values. $\tilde{n} = \frac{(\tilde{\gamma}_a - \tilde{\gamma})}{g_{\tilde{\gamma}}}$, where ~ denotes averaging over the pressure. R is the gas constant. The indices 8 and 7 point to the isobaric

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surface of 850 and 700 mb, respectively. When deriving (10), it was considered that in the atmospheric ground layer the divergence amounts to about treble D_θ. ζ is the vertical component of true vorticity.

$$A' = \frac{\tilde{n} r_1^2 a}{4(1 + b\tilde{n})}, \qquad (13)$$

$$B' = \frac{\tilde{n}(p_0 - p) bl}{4(1 + b\tilde{n})}, \qquad (14)$$

$$M = \left(\frac{\partial u}{\partial x}\right)^2 + 2\frac{\partial v}{\partial x}\frac{\partial u}{\partial y} + \left(\frac{\partial v}{\partial y}\right)^2, \qquad (15)$$

$$\Omega_r = \frac{1}{f}\left(\frac{\partial^2 H}{\partial x^2} + \frac{\partial^2 H}{\partial y^2}\right). \qquad (16)$$

In spite of their simple setup, formulas (5), (10), (11), and (12) may be used for calculations only provided a number of conditions is observed, that

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is, only for the forecast of the evolution of special points of the baric field. The calculation results depend in each individual case on the selection of the r_1 value. This value can be determined from the ground pressure field. The daily pressure variation in the baric ground center can be found from the following formula, after calculating the first and second derivation from the initial data:

$$\delta p_o = \left(\frac{dp_o}{dt}\right)_{t=0} t + \frac{1}{2}\left(\frac{d^2 p_o}{dt^2}\right)_{t=0} t_1^2 \quad (17)$$ t = 24 h, t_1 = 6 h.

The forecasts of the evolution of 13 cyclones and 9 anticyclones were calculated from formulas (5), (10), (11), (12), and (17) according to data from 12 synoptic situations in 1958. The results show that taking into consideration the acceleration for the qualitative forecast of the evolution of ground cyclones and ground anticyclones makes the occurrence

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of the forecast more probable. Thanks are expressed to G. M. Pronina for her assistance. There are 2 tables and 5 Soviet references.

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PRONINA, G.M.; USPENSKIY, B.D.

Graphical method of forecasting the absolute geopotential field. Meteor.i gidrol. no.11:31-34 N '61. (MIRA 14:10)
(Numerical weather forecasting)

APPROVED FOR RELEASE: 04/03/2001 CIA-RDP86-00513R001858210013-2"

"APPROVED FOR RELEASE: 04/03/2001 CIA-RDP86-00513R001858210013-2

USPENSKIY, B.D.

Graphic forecasting method of surface pressure. Meteor. i gidrol. no.12:27-30 D '63. (MIRA 17:3)

1. TSentral'nyy institut prognozov.

APPROVED FOR RELEASE: 04/03/2001 CIA-RDP86-00513R001858210013-2"

"APPROVED FOR RELEASE: 04/03/2001 CIA-RDP86-00513R001858210013-2

USPENSKIY, B.D., doktor fiz.-mat. nauk, prof.; BELOUSOV, S.L., kand. fiz.-mat. nauk; PYATYGINA, K.V.; YUDIN, M.I.; MERTSALOV, A.N., kand. fiz.-mat. nauk; DAVYDOVA, O.A.; KUPYANSKAYA, A.P.; PETRICHENKO, I.A.; MORSKOY, G.I.; TOMASHEVICH, L.V.; SAMOYLOV, A.I.; ORLOVA, Ye.I.; DZHORDZHIO, V.A.; PETRENKO, N.V.; DUBOVYY, A.S.; ROMOV, A.I.; PETROSYANTS, M.A.; GLAZOVAYA, [illegible] BATYAYEVA, T.F.; BEL'SKAYA, N.N.; CHISTYAKOV, A.D.; GANDIN, L.S.; BURTSEV, A.I.; MERTSALOV, A.N.; BAGROVYY, N.A.; BELOV, P.N.; ZVEREV, A.S., retsenzent; SIDENKO, G.V., [illegible] red.; DUBENTSOV, V.R., kand. fiz.-mat. nauk, nauchn. red.; SAGATOVSKIY, N.V., red.; BUGAYEV, V.A., doktor geogr. nauk, prof., red.; ROGOVSKAYA, Ye.G., red.

[Manual on short-range weather forecasts] Rukovodstvo po kratkosrochnym prognozam pogody. Leningrad, Gidrometeoizdat. Pt.1. Izd.2., perer. i dop. 1964. 519 p. (MIRA 18:1)

1. Moscow. TSentral'nyy institut prognozov.

APPROVED FOR RELEASE: 04/03/2001 CIA-RDP86-00513R001858210013-2"

"APPROVED FOR RELEASE: 04/03/2001 CIA-RDP86-00513R001858210013-2

USPENSKIY, B.D., doktor fiz.-matem. nauk, prof.

Operational numerical forecasting of continuous precipitation. Meteor. i gidrol. no.2:3-12 F '65. (MIRA 18:3)

1. TSentral'nyy institut prognozov.

APPROVED FOR RELEASE: 04/03/2001 CIA-RDP86-00513R001858210013-2"

"APPROVED FOR RELEASE: 04/03/2001 CIA-RDP86-00513R001858210013-2

TURKETTI, Z.L.; USPENSKIY, B.D.

International symposium on the dynamics of large-scale atmospheric processes. Izv. AN SSSR. Fiz. atm. i okeana 1 no.11:1222-1226 N '65.

(MIRA 18:12)

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"APPROVED FOR RELEASE: 04/03/2001 CIA-RDP86-00513R001858210013-2

USPENSKIY, B.I.

S/560/61/000/009/001b/009

AUTHORS: Antonov, S. M., K. S. Bogomolov, N. I. Kirillov, N. S. Ovechkis, and B. I. Uspenskiy

TITLE: Photographic processes applied in the first photography of the far side of the moon

PERIODICAL: Akademiya nauk SSSR. Iskusstvennyye sputniki Zemli, no. 9, 1961, 20-29

TEXT: Both ground and onboard photographic processes were used to obtain the first images of the far side of the moon. The main task lay in bringing out to the maximum degree the details of the objects surveyed. The numerical value of the contrast coefficient of the onboard negative was close to 1; for the ground negative it was of the order of 0.7. The dosage of relativistic particles on the flight to the moon was of the order of 10^7 particles/cm^2. Theoretical computations and experiments show that the density of film darkening caused

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Photographic processes applied...

by the particles was ~ 0.04 to 0.06; the film fogging was 0.13 to 0.14. The basic requirements for the onboard photographic process were simplicity, stability, full automation, and reliability. Small-grain, heat-resistant film of average sensitivity and high resolving power, based on silver halide photoemulsions, was most suitable. A single-dish developing process, in which the film is developed and fixed simultaneously, was chosen. To preserve the necessary sensitometric indices, a viscous developing—fixing solution was used. The developing component was a new, energetic substance with high superadditive properties, while the fixing component possessed high buffering quality and a high content of fixing substance. A graphic presentation of the sensitometric characteristics of the single-dish process indicates that temperature oscillations from 30 to 50° have little effect on the characteristics of the curves. Thermostatic tests of the solution showed good conservation at t = 20-40° for 15 days, i.e., 2.5 times the duration of the flight. Further processing of the film consisted in a short water wash and drying on a hot drum. All necessary sensitometric, physico-chemical, and mechanical tests were made on a special model of the equipment

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Photographic processes applied...

for film processing. The ground-station process consisted in the recording of the image, in the form of radio signals sent from the station, on photographic film and subjecting the film to chemical processing. Low-concentrating, slowing-operating leveling developers were specially made. The development of test negatives made it possible to establish processing regimes. Sets of positives and double negatives, obtained from each frame, served as initial material in investigating the first images of the far side. Samples of the prints obtained are given.

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L 5308-66 EWT(m)/EWP(v)/T/EWP(t)/EWP(k)/EWP(z)/EWP(b)/EWA(c) LJP(c) JD/HM/HW
ACC. NR: AP5025755 SOURCE CODE: UR/0286/65/000/018/0120/0120

AUTHORS: Lotsmanov, S. N.; Krivun, G. M.; Chekunov, I. P.; Uspenskiy, B. N.; 32
Osval'd, F. V.; Bordovskikh, N. S. B

ORG: none

TITLE: Silverless solder for soldering copper and its alloys. Class 49, No. 174931

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 18, 1965, 120

TOPIC TAGS: solder, copper, copper alloy, tin, nickel, cobalt, manganese

ABSTRACT: This Author Certificate presents a silverless solder for soldering copper and its alloys. The solder contains tin, phosphorus, and copper. To improve the density and strength of the soldered joint and to lower the soldering temperature, nickel or cobalt (up to 1%) and manganese (up to 0.5%) are added to the solder, while the remaining components are taken in the following proportions: tin- 10-15%, phosphorus- 4-5%, copper- remainder.

SUB CODE: IE, MM/ SUBM DATE: 24Dec62/ ORIG. REF: 000/ OTH REF: 000

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"APPROVED FOR RELEASE: 04/03/2001 CIA-RDP86-00513R001858210013-2

PA 28/49T40

USPENSKIY, B. P.

Jun 48

USSR/Engineering
Excavating Machinery

"Excavators for Digging and Cleaning Irrigation Ditches," B. P. Uspenskiy, B. N. Nedokuchayev, Engineers, 3 pp

"Mekh Stroi" No 6

Last year the "Krasnyy Ekskavator" Factory, Kiev, released type EM-501 excavator to be used for cleaning out irrigation ditches. Includes photograph of the unit, several sketches showing possible uses for excavator, and performance data and dimensions.

28/49T40

FDB

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"APPROVED FOR RELEASE: 04/03/2001 CIA-RDP86-00513R001858210013-2

USPENSKIY, Boris Petrovich; KRAMARENKO, Leonid Ivanovich, retsenzent; TELEGIN, Pavel Andreyevich, retsenzent; KOVALEVA, Z.G., red.

[Shaped, welded steel parts; ordinates for pattern layout] Svarnye stal'nye fasonnye chasti; ordinaty dlia raskroia shablonov. Khar'kov, Izd-vo Khar'kovskogo univ., 1964. 102 p. (MIRA 17:9)

APPROVED FOR RELEASE: 04/03/2001 CIA-RDP86-00513R001858210013-2"

"APPROVED FOR RELEASE: 04/03/2001 CIA-RDP86-00513R001858210013-2

USSR/Electricity - Hydroelectric Stations Jan 52

"High-Power Hydroelectric Stations," Docent B. S. Uspenskiy, "Gidroenergoproyekt"

"Elektrichestvo" No 1, pp 3-15

In view of the wide interest in the tech problems involved in the great construction projects, the editors of "Elektrichestvo" have decided to publish a series of articles designed to give its readers a general idea of the modern high-power hydroelec station, its tech construction, the modern large hydroelec generator,

201T1

USSR/Electricity - Hydroelectric Stations (Contd) Jan 52

transmission lines, etc. This is the part of the 1st article in this series, and is given to the hydraulic part of the modern hydroelec station. Submitted 24 Oct 51.

201T1

USPENSKIY, B. S.

APPROVED FOR RELEASE: 04/03/2001 CIA-RDP86-00513R001858210013-2"

"APPROVED FOR RELEASE: 04/03/2001 CIA-RDP86-00513R001858210013-2

USPENSKIY, B. S. Docent

USSR/Electricity - Hydroelectric Stations Feb 52

"High-Power Hydroelectric Stations," Docent B. S. Uspenskiy, "Gidroenergoproyekt"

"Elektrichestvo" No 2, pp 3-12

Continuation of an article published in "Electrichestvo" No 1, 1952. First article dealt mainly with hydraulic problems. Current article deals with hydraulic turbine equipment and hydroelec generators, the elec system of hydroelec stations, control problems, automatics and telemechanics in hydroelec stations, and arrangement of equipment.

208T21

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"APPROVED FOR RELEASE: 04/03/2001 CIA-RDP86-00513R001858210013-2

USPENSKIY, B.S., Docent

Moscow - Volga Canal

Moscow Canal. Elektrichestvo No. 7, 1952.

Monthly List of Russian Accessions, Library of Congress, November 1952. UNCLASSIFIED.

APPROVED FOR RELEASE: 04/03/2001 CIA-RDP86-00513R001858210013-2"

"APPROVED FOR RELEASE: 04/03/2001 CIA-RDP86-00513R001858210013-2

1. USPENSKIY, B.S., KHAYFITS, M.M. Engs.

2. USSR (600)

4. Hydroelectric Power Stations

7. Layout of the electrical part of automatic hydroelectric power stations. Gidr. stroi. No. 11 1952.

9. Monthly List of Russian Accessions, Library of Congress, April 1953, Uncl.

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"APPROVED FOR RELEASE: 04/03/2001 CIA-RDP86-00513R001858210013-2

USPENSKIY, B.S., inzhener; VOLNIN, B.A., inzhener; KORKHOVA, V.I., inzhener.

Hydraulic cleaning of the space in front of trash rakes of hydroelectric power plants. Gidr.stroi. 22 no.8:37-38 Ag '53. (MLRA 6:8)
(Hydroelectric power stations)

APPROVED FOR RELEASE: 04/03/2001 CIA-RDP86-00513R001858210013-2"

"APPROVED FOR RELEASE: 04/03/2001 CIA-RDP86-00513R001858210013-2

USPENSKIY, B.S.

AID P - 1277

Subject : USSR/Electricity

Card 1/2 Pub. 27 - 1/30

Author : Uspenskiy, B. S., Dotsent

Title : Kama Hydroelectric Power Station

Periodical : Elektrichestvo, 1, 1-7, Ja 1955

Abstract : The author gives a detailed description of this hydroelectric power development, the first on the Kama River. The reservoir will cover an area of 200,000 ha. The maximum head will be more than 21 m. The power station will be of the so-called "combined" type, in which the powerhouse is built into the body of the spillway dam. The turbines and generators will be automatically controlled. The turbines are of PL-510 type rated for a normal head of 14 m. The weight of the turbine is 300 tons. The 10.5 kv generators are of umbrella type. The weight of the rotor is 137 tons, while the total weight of the generator is 265 tons. A total of 24 generators, divided into 4 groups, will be connected with 4 trans-

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AID P - 1277

Elektrichestvo, 1, 1-7, Ja 1955

Card 2/2 Pub. 27 - 1/30

former banks (two groups for 220 kv, and two for 110 kv). The total volume of the earth dams will be about 13 million cu m. The spillway dam and the powerhouse will be built of 700,000 cu m of concrete. There will be a double navigation lock, with about 300,000 cu m of concrete. A connection diagram and a cross-section of the outdoor substation are given.

Institution : State Trust for the Planning of Hydroelectric Power Plants and Developments (GIDROENERGOPROYEKT)

Submitted : 0 30, 1954

APPROVED FOR RELEASE: 04/03/2001 CIA-RDP86-00513R001858210013-2"

"APPROVED FOR RELEASE: 04/03/2001 CIA-RDP86-00513R001858210013-2

AID P - 2915

Subject : USSR/Electricity

Card 1/2 Pub. 26 - 12/32

Authors : Motovilov, V. V., Kand. Tech. Sci., Kuybyshev Industrial Institute im. Kuybyshev; B. S. Uspenskiy, Kand. Tech. Sci, Moscow Power Institute im. Molotov; M. Yu. Rozenfayn, Eng., Ukrainian State Institute for Planning of Mining; V. I. Chernyshevich, Eng., Dnepr Power System; S. A. Kudryashov, Eng., Kuybyshev "Elertroproyekt"; L. Ya. Rozenshteyn, Eng., "Promenergoproyekt"; and L. L. Perel'man, Eng., Kiev Construction in the Case Industry

Title : Discussions; On the arrangement of electrical equipment in the main building of small and medium-size electric power plants

Periodical : Elek.sta., 7, 40-44, Jl 1955

Abstract : The layout and arrangement of equipment at power plants are discussed in a series of articles by the authors listed above. The question of an efficient distribution with possible savings in material of electrical equipment

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"APPROVED FOR RELEASE: 04/03/2001 CIA-RDP86-00513R001858210013-2

AID P - 2915

Elek. sta., 7, 40-44, J1 1955

Card 2/2 Pub. 26 - 12/32

is considered in detail. A reduction in the powerhouse volume is recommended. However, more research should be done before a standard design for layouts can be accepted. The problem of changing solenoid mechanisms over to springs needs more study. Three diagrams.

Institution : None

Submitted : No date

APPROVED FOR RELEASE: 04/03/2001 CIA-RDP86-00513R001858210013-2"

"APPROVED FOR RELEASE: 04/03/2001 CIA-RDP86-00513R001858210013-2

UGORETS, I.I.; GLAZUNOV, A.A.; SYROMYATNIKOV, I.A.; KASHUNIN, I.S.; POSTNIKOV, N.A.; RADTSIG, V.A.; UL'YANOV, S.A.; GRUDINSKIY, P.G.; VASIL'YEV, A.A.; KUVSHINSKIY, N.N.; BAPTIDANOV, L.N.; TARASOV, V.I.; KRIKUNCHIK, A.B.; SHAPIRO, A.B.; BIBIKOV, V.V.; DVOSHIN, L.I.; KLINGOF, I.D.; KARPOV, M.M.; USPENSKIY, B.S.; CHALIDZE, I.M.; BLOCH, Ya.A.; SHMOTKIN, I.S.

Iosif IAkovlevich Gumin; obituary. Elek.sta.26 no.12:58 D '55. (MLRA 9:4)
(Gumin, Iosif IAkovlevich, 1890-1955)

APPROVED FOR RELEASE: 04/03/2001 CIA-RDP86-00513R001858210013-2"

"APPROVED FOR RELEASE: 04/03/2001 CIA-RDP86-00513R001858210013-2

VINTER, A.V.; NEKRASOV, A.M.; SYROMYATNIKOV, I.A.; VOZNESENSKIY, A.N.; VASILENKO, P.I.; LAUPMAN, P.P.; TERMAN, I.A.; VINOGRADOV, N.P.; ANTOSHIN, N.N.; ALEKSANDROV, B.K.; USPENSKIY, B.S.; KLASSON, I.R.; KHEYFITS, M.E.; DRUTSKIY, V.F.; KRACHKOVSKIY, N.N.; POPOV, P.A.; CHELIDZE, I.M.; FILARETOV, S.N.; KOZLOV, M.D.; BERLIN, V.Ya.; SARADZHEV, A.Kh.; GORDZIYEVICH, I.S.; PAK, V.P.; DORFMAN, S.M.; DUBINSKIY, L.A.; UL'YANOV, S.A.; GRUDINSKIY, P.G.; KUVSHINSKIY, N.N.; ERMOLENKO, V.M.

Mikhail Mikhailovich Karpov. Elek.sta. 27 no.10:62 O '56. (MLRA 9:12)
(Karpov, Mikhail Mikhailovich, d.1956)

APPROVED FOR RELEASE: 04/03/2001 CIA-RDP86-00513R001858210013-2"

"APPROVED FOR RELEASE: 04/03/2001 CIA-RDP86-00513R001858210013-2

USPENSKIY, B.S.

PHASE I BOOK EXPLOITATION 284

Soveshchaniye elektrikov po voprosu proyektirovaniya elektricheskoy chasti gidrostantsiy, Moscow, 1956

Novoye v proyektirovanii elektricheskoy chasti gidroelektrostantsiy (Materialy soveshchaniya po proyektirovaniyu i ekspluatatsii) (New Developments in the Design of Electric Equipment for Hydroelectric Power Plants (Data of the Conference on Design and Operation)) Moscow-Leningrad, Gosenergoizdat, 1957, 222 p. 4,500 copies printed.

Sponsoring agencies (of Conference): Vsesoyuznyy trest po proyektirovaniyu gidroelektrostantsiy i gidroelektrouzlov; Moskovskoye otdeleniye nauchno-tekhnicheskogo obschchestva energopromyshlennosti, Moskovskiy energeticheskiy institut.

Ed.: Demkov, Ye. D.; Tech. Ed.: Fridkin, A.M.; Ed. of the Collection: Kheyfits, M.E., Engineer.

PURPOSE: These collected reports are addressed to engineers engaged in the design, construction, operation and maintenance of electric power plants, as well as to students at power

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"APPROVED FOR RELEASE: 04/03/2001 CIA-RDP86-00513R001858210013-2

New Developments in Design of Electric Equipment (Cont.) 284

engineering and electrical engineering vuzes.

COVERAGE: A conference of electrical engineers engaged in the design, construction, operation and maintenance of hydroelectric power plants and electric power distribution systems was held in Moscow from May 16th to May 24, 1956. The conference was organized by Gidroenergoproyekt (All-Union Trust for the Design and Planning of Hydroelectric Power Plants and Developments) in collaboration with MONTOEP (Moscow Branch of the Scientific and Technical Society of the Electrical Industry) and the Moskovskiy energeticheskiy insitut (Moscow Power Engineering Institute). Several related design organizations, as well as the Ministries of the Electrical Industry, of Electric Power Plants and of Electric Power Plant Construction also participated. The reports in this collection reflect the latest views on the design and planning of the electrical equipment of hydroelectric stations and on their requirements for equipment. Special attention is given to problems of automation and remote control of stations and systems. These reports are concerned to a very great extent with the description and appraisal of considerable quantities of

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Soviet-produced electrical equipment. There is a list of Soviet personalities and organizations which took part in the conference (pp. 205-215). In several of the reports reference is made to Soviet power engineers who have made important contributions in the field. There are 34 references, of which 27 are Soviet (pp. 157, 169, 197 and 205), three English, two Italian, one French and one Swedish (p. 196).

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